

OK to Enk - RM 11/15/04

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AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) ~~The~~ A method of individually fitting a golf putter club having a grip, shaft and head for an individual golfer which comprises determining the proper length of a the golf putter club by (1) positioning the golfer on level ground with his hip sockets directly above his heels; (2) simultaneously tilting his torso forwardly about his hips to position his eyes directly above a ball positioned on the ground, (3) simultaneously positioning his hands on the grip directly below his shoulders and forward of his legs and torso, (4) measuring the distance from the heel of his palm to the ground at the inside edge of the ball.

2. (Currently Amended) ~~The~~ A method set forth in claim 1 wherein step 4 includes measuring the vertical distance A from the heel of the palm to the ground and measuring the horizontal distance B from the heel of the palms to the inside edge of the ball and calculating putter club length C where $C^2 = A^2 + B^2$.

3. (Currently Amended) ~~The~~ A method in accordance with claim 1 including (5) pivoting the club head about an axis passing through the putter parallel to the intended direction of ball movement to position the bottom of the club head flat on the ground, whereby the proper lie is provided.

4. (Currently Amended) ~~The~~ A method in accordance with claim 1 and adding, after the length has been ~~selected~~ determined, (6) adjusting the weight of the putter head and grip to provide a selected swing weight.

5. (Original) Apparatus for fitting a golf putter club to a golfer in accordance with the method of claim 2 comprising a grip supporting a vertical, adjustable rod and representing a length A from the upper end of the grips to the ground, having a horizontal beam extending from the rod on the ground for indicating the distance B from a point directly below the upper end of the grip to the nearest edge of the golf ball, including scales directly reading the lengths A and B after adjustment of the apparatus.

6. Apparatus according to claim 5 wherein said grip is adjustably pivoted about the upper end of the vertical rod and the length of said horizontal beam is adjustable relative to the rod to reflect a change in angle between the grip and vertical rod.

**DETAILED DESCRIPTION OF
THE PREFERRED EMBODIMENTS**

Figure 1 is a view of a golfer as seen from his right side looking
5 toward a golf hole into which the golfer expects to putt the golf ball 10
using the putter 15 having a shaft 16 and a putter blade 17 7. In
Figure 1, the golfer is standing on the green with the ball 10 positioned
between his feet approximately as illustrated in Figure 2. The golfer is
shown positioned in an optimum state for putting. As can be seen, the
10 golfer's hip sockets generally indicated at 20 are positioned directly
above the golfer's heels indicated at 21 to provide optimum stability.
The golfer's torso 25 is tilted forwardly, generally about the hips 20
until the golfer's eyes 30 are directly vertically above the ball 10, on
vertical line 31, and the golfer's hands 35 are positioned directly below
15 the shoulder sockets 40, along line 41 and are positioned in front of and
somewhat spaced from the golfer's legs so that swinging motion of the
arms in the vertical plane parallel to the line of ball movement and
including line 41 is free from interference with the golfer's legs and
abdomen. In this condition, it will be observed that the line 41
20 intersects the ground at a distance B from the ball 10, and the upper
end 18 of the shaft 16, and grip 17 is at a distance A above the ground.

In the condition illustrated there, it will be seen that the
appropriate length of the putter from the upper end of the grip to the
bottom of the blade 17 7 is equal to the hypotenuse of the right triangle
25 formed by legs A, B and C and, accordingly, according to the
Pythagorean Theorem, the length C can be accurately determined by
the formula $A^2 + B^2 = C^2$. An important aspect of the present invention
is the fitting concept that the dimension of the shaft C is determined
after the golfer is in the optimum, preferred position, rather than
30 providing the golfer with an adjustable length club and suggesting that
he, or she, adjust the length until it feels "most comfortable." In fact,

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when a golfer assumes the optimum position for putting, as herein described, it may very well feel uncomfortable to him or her until substantial practice has occurred, swinging the putter of the proper length, many times. I have found in practice, and in teaching many
5 professional and amateur students that, in fact, the classical 35" standard length putter is usually longer than the proper length determined under my system.

The lie angle θ varies with the trigonometric formula $\tan \theta = A/B$; where θ is 72° $\tan \theta$ is 3.08. The lie angle θ may, accordingly, be
10 found from the standard natural trigonometric functions table or a standard engineering slide rule.

A suitable fitting tool using the theorem noted above is shown in Figure 3. There, the vertical, telescoping arm 50 is adjustable in length by wing screw clamp 54, and grip 17' is likewise adjustable at pivot 19
15 to provide a grip of variable angle. As illustrated, the 10" long grip is at 18° from the vertical, complimentary of the 72° lie angle considered standard. At 18° , the end 18' of the grip is 3.09" inside the adjustable vertical arm 50 ($\sin 18^\circ = 3.09"/10"$) and, accordingly, the measuring rule 43 on horizontal arm 42 has the starting indication of 7" at 3.91"
20 from the inside edge of arm 42. The rule 43 is adjustable along arm 42 using wing screw 44 to compensate for a change of measurement from $18^\circ \pm 3^\circ$ which varies the length 3.09" from 3.58" to 2.59, i.e. plus or minus $\frac{1}{2}$ inch. In use, the grip ~~17"~~ 17' may be adjusted at 18° from vertical, to reflect 72° lie, which shows on the indicator 19' as 72° after
25 the proper set up, described above, is determined, the tool is adjusted to provide the desired shaft length. At this point, the final lie angle will be determined from the measurements A and B. That angle may then be set at the grip indicator 19 and rule 43 by wing screws 19 and 44 respectively. The final measurement may be confirmed by renewing
30 the set up position with the hands in position and the arm 42 lying on